

Update on Vine Mealybug Trapping and Distribution
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There are approximately 907,226 acres of commercial grape production and 78 grapevine nurseries covering approximately 2,450 acres currently within California. These acres are located in 49 counties stretching from the Mexican border in the south (Imperial and San Diego Counties) to the Oregon border (Siskiyou County). Most of the acres are located in the western part of the state. Pheromone trapping for vine mealybug (VMB) males [*Planococcus ficus* (Signoret) (Homoptera: Pseudococcidae)] began throughout the state in 2003 and was conducted as a cooperative project among the University of California Cooperative Extension (UCCE) Service, the county agricultural commissioners, and/or private industry. Pheromone traps were made available to anyone requesting traps from the California Department of Food and Agriculture (CDFA) beginning in August 2003. To date, VMB traps are available in 37 counties. Identification of the insects on the traps has been and is conducted by personnel at the CDFA Plant Pest Diagnostics Laboratory and UCCE Kearney Agricultural Center. A map of the counties that have been trapped, their VMB status, or have grape acreage but no known trapping program can be found in Appendix I. Two counties (Solano and Yuba) will begin trapping programs in the spring of 2004.

Trapping programs in 2003 concentrated on “high-risk” vineyards (i.e., those planted after 1997/1998, and those with large amounts of new replants) and grapevine nurseries. Traps were placed at several densities (e.g., 1 trap per 80 acres, 1 trap per 20 acres, 1 trap per 5 acres, etc.). Trapping density was dictated by vineyard block size and block arrangement. Most traps were checked at least once per month for the presence of *Planococcus* male mealybugs. (Remember, the species of *Planococcus* males trapped cannot be determined.) Traps with suspect mealybug males were then sent to either CDFA Plant Pest Diagnostics Laboratory or Kearney Agricultural Center. If *Planococcus* males were found in a trap, the vineyard was inspected for the presence of females. If female mealybugs were found, they were sent in for identification.

The results of the trapping program for 2003 are summarized in Table 1. The results are based on information from the CDFA Pest Damage Reports (PDR) and from UCCE. Vine mealybug has been confirmed (i.e., female VMB found) from a relatively small number of sites (unique addresses) in 16 counties. Males have been trapped at considerable more sites. This is not surprising considering that the males can travel up to ¼ mile, be blown in the wind for some distance, or be detected when female densities are too low to be detected. The sites with positive male finds from 2003 should be considered as priority trapping sites for 2004.

Trapping was conducted in an additional 22 counties. Of these, 19 counties were found to be negative for VMB (i.e., no *Planococcus* males trapped). Three counties gave traps to growers, but the traps were never returned. Nine counties have grape acreage (a total of 9,600 acres), but no trapping program.

The trapping program has been successful, in that a number of the positive sites were confirmed after males were found in traps. This is true for 1 site in Alameda County, 1 site in Monterey County, 2 sites in Napa County, 5 sites in San Luis Obispo County, 1 site in Santa Barbara County, and 3 sites in Sonoma County. There are also 2 sites for which *Planococcus* nymphs have been found. The first site is in Kern County near Wasco, and the other is in Napa County near Sonoma.

There are some differences in the number of confirmed VMB sites between the PDR records and the information from UCCE. Some of these differences are most likely due to the manner in which a “site” was determined. From the PDR records, only unique addresses could be defined as a “site”, and in some cases, samples were submitted from organizations rather than individuals. The UCCE information probably represents a more accurate picture of the infestations. Farm Advisors can define sites more accurately because they can define a site by a block or growing area even if several of these sites belong to one grower.

In summary, VMB has spread throughout a large part of the grape growing regions of California. The number of infested sites, however, is low and represents only a small percentage of the total grape acreage. Many of the VMB sites are under eradication programs developed by UCCE. In several cases, the eradication programs appear to be successful (i.e., no males trapped and no females found). The trapping program provides an efficient early-warning system for VMB, so that growers can take the necessary steps to either eradicate the pest or slow its spread.

TABLE 1. The number of sites (unique addresses) found to have male *Planococcus* mealybugs or female VMB by county, city, and year. This information was derived from CDFA-PDR (Pest and Damage Report) records and from information provided by UCCE Farm Advisors.

County	Year		No. of Sites		City	
	Trapped	Confirmed	Males	Females	(No. male sites)	(No. female sites)
Alameda	2003	2003	7	1	Livermore (7)	Livermore (1)
Butte	2003		0	-		
Colusa	2003		0	-		
Contra Costa	2003		0	-		
El Dorado		2002	-	1		Gold Hill ^a (1)
	2003		1	-	Gold Hill ^a (1)	
Glenn	2003		pending			
Kern		1998	0	1		Arvin (1)
		1999		2		Arvin (2)
	2003 ^b		pending ^b			
Lake	2003		0	-		
Los Angeles		2003	-	0		
Madera ^b		2003 ^b	-	1 ^b		
Mariposa	2003		0	-		
Mendocino	2003		0	-		
Merced ^b	2003	2003	0	0		
Monterey		2002	-	1		San Ardo (1)
	2003	2003	18	3	San Ardo (1) King City (5) Greenfield (8) Soledad (3) San Lucas (1)	San Ardo (1) King City (1) Greenfield (1)
Napa	2002	2002	9	6	St Helena (4) Napa (4) Angwin (1)	St. Helena (2) Napa (2) Angwin (1)
		2002 ^b	-	5 ^b		Deer Park (1)

County	Year		No. of Sites		City	
	Trapped	Confirmed	Males	Females	(No. male sites)	(No. female sites)
Napa	2003	2003	1	14	Napa (1)	Napa (8) St. Helena (2) Calistoga (1) Yountville (2) Rutherford (1)
	2003 ^b	2003 ^b	12 ^b	13 ^b		
Nevada	2003		0	-		
Placer	2003		pending			
Riverside		1994			Entire Coachella Valley	
Sacramento		2002		1		Galt (1)
		2003		1		Galt (1)
	2003 ^a	2003 ^b	pending ^b	4-5 ^b		
San Benito	2003		0			
San Bernardino	2003		0	-		
San Joaquin	2003	2003	3	6	Clements (2) Lodi (1)	Linden (2) Lodi (1) Thornton (2) Acampo (1) Creston (1)
San Luis Obispo		2001	-	1		San Luis Obispo (1)
		2002	-	1		
		2002 ^b		2 ^b		
	2003	2003	12	7	San Luis Obispo (3) Creston (8) Santa Margarita (1)	San Luis Obispo (3) Creston (2) Santa Margarita (1) Arroyo Grande (1)
		2003 ^b		8 ^b		
San Mateo	2003		0	-		
Santa Barbara		2000	-	1		Santa Maria (1)
		2002 ^b		2 ^b		
	2003	2003	5	3	Cuyama (1) Santa Maria (3)	Cuyama (1) Santa Maria (1)

County	Year		No. of Sites		City	
	Trapped	Confirmed	Males	Females	(No. male sites)	(No. female sites)
Santa Barbara		2003 ^b		3 ^b	Los Alamos (1)	Sisquoc (1)
Santa Clara	2003	2003	2	1	Gilroy (2)	Gilroy (1)
Santa Cruz	2003		? ^c			
Shasta	2003		0			
Sonoma	2002	2002	4	4	Windsor (1)	Windsor (1)
					Santa Rosa (2)	Santa Rosa (2)
					Sonoma (1)	Healdsburg (1)
	2003	2003	29	7	Sonoma (2)	Sonoma (4)
					Geyserville (10)	Geyserville (3)
					Healdsburg (3)	
					Windsor (5)	
					Santa Rosa (3)	
					Forestville (5)	
					Unknown (1)	
Stanislaus ^b		2002 ^b		2 ^b		
Sutter	2003		0			
Tehama	2003		0			
Trinity	2003		0			
Tulare	2003		0			
Tuolumne	2003		0			
Ventura	2003		0	0		
Yolo		2002	-	1 ^d		Clarksburg (1)
	2003		0			

^aBoth males and females from one vineyard.

^bInformation provided by UCCE

^cTraps given to growers, but not returned.

^dThe person submitting the sample would not disclose the location of this vineyard, other than to say the Clarksburg area. Therefore, this infestation was placed in Yolo County.

APPENDIX I

Vine Mealybug Trapping Summary

Counties with Vine Mealybug Confirmed

Napa
Sonoma
Alameda
Monterey
San Luis Obispo
Santa Barbara
Santa Clara
San Joaquin
Stanislaus
Madera
Fresno
Kern
Riverside
Sacramento
Yolo
El Dorado

Counties that were trapped and are negative for Vine Mealybug

Lake
Mendocino
Nevada
San Mateo
Tuolumne
Colusa
Butte
Tehama
Sutter
Mariposa
Merced
Tulare
Contra Costa
Trinity
Los Angeles
San Bernardino
Shasta
Ventura
San Benito

Counties that gave out traps that were not returned

Glenn

Placer

Santa Cruz

Counties with trap results pending

None

Counties that will be trapped for the first time next year

Yuba

Solano

Counties with no known trapping program

Amador

Calaveras

Humboldt

Imperial

Inyo/Mono

Kings

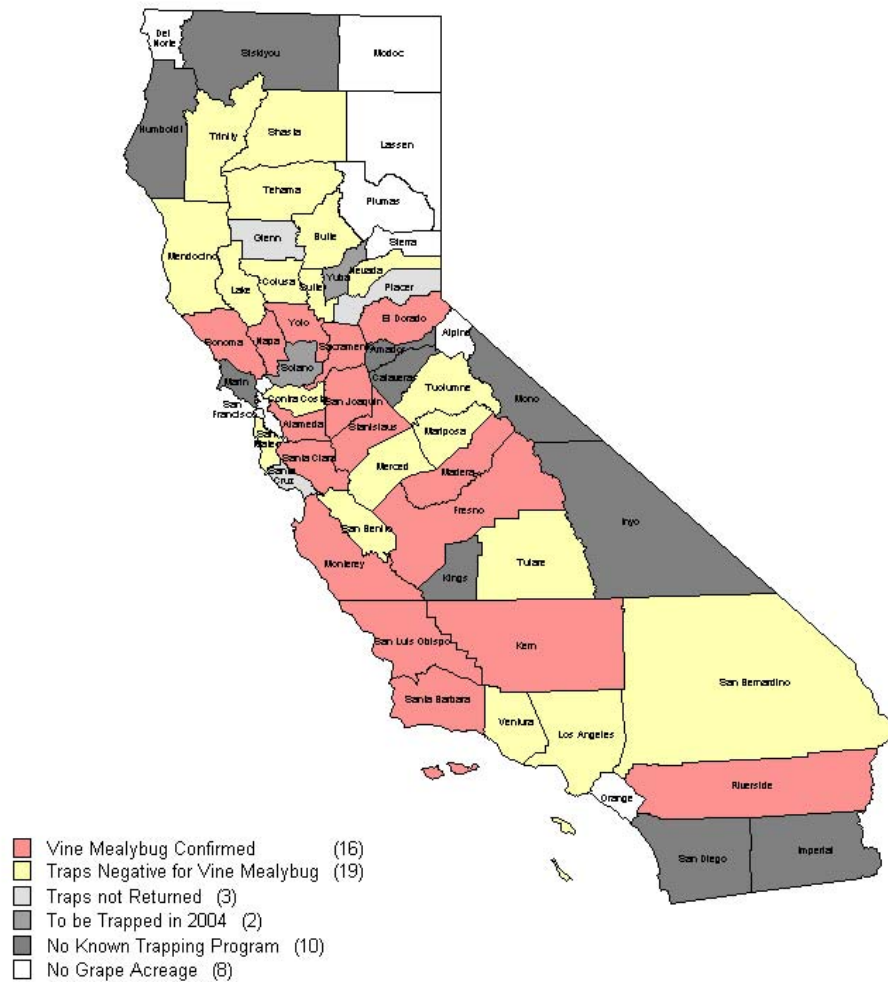
Marin

San Diego

Siskiyou

California Department of Food & Agriculture

Vine Mealybug Distribution in CA



CDFA/GS Lab / 12/2004